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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,856	02/18/2005	Tomoyasu Nishizaki	Q86415	3547

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EXAMINER

FISCHER, JUSTIN R

ART UNIT PAPER NUMBER

1733

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/524,856	<b>Applicant(s)</b> NISHIZAKI ET AL.	
	<b>Examiner</b> Justin R. Fischer	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teratani (JP 2002079803, of record) and further in view of either one of Powell (US 4,193,437) or Sattelmeyer (US 4,837,266). Teratani substantially discloses the claimed tire construction, including a pair of rubber reinforcing layers 7 (one in each sidewall) and a bead filler 5, wherein said layer 7 and filler 5 can be formed of the same rubber composition. The reference further teaches, in an analogous manner to the claimed invention, that the composition is formed of a conjugated diene based polymer having a high vinyl content and a weight average molecular weight and number average molecular weight in accordance to the claimed invention. It is emphasized that the composition disclosed by Teratani and that detailed by the claimed invention are extremely similar to one another. Teratani, however, is silent as to the inclusion of a resin and a curing agent. These additives, however, are well recognized as being methylene acceptors (resin) and methylene donors (curing agent) and they are extensively used in a wide variety of tire rubber compositions in order to provide improved mechanical properties (e.g. modulus and tensile strength), as shown for example by Powell (Column 5, Lines 20-30) and Sattelmeyer (Column 1, Lines 10-35).

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It is particularly noted that (a) the relevant composition of Powell is a sidewall insert in an analogous manner to the claimed invention and (b) the relevant compositions of Sattelmeyer are tire compositions that experience large amounts of dynamic deformation (well recognized as including runflat inserts). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include the above noted additives in the composition of Teratani since they are recognized as constituting well known and conventional additives that are included in a wide variety of tire rubber compositions. It is emphasized that methylene acceptors (e.g. phenol resin) and curing agents (e.g. HMMM or HMT) represent well known and conventional additives that are used in a variety of tire compositions in order to, among other things, provide improved mechanical properties.

As to the results of Table, they are not seen to be persuasive. The only relevant comparison, given the composition of Teratani, is Example 2 and Comparative Example 2. In this instance, the results suggest that the inclusion of a phenol resin and two types of curing agents provides improved elastic modulus and dynamic modulus and ultimately improved runflat durability. However, as set forth above, the prior art recognized the benefits of improved mechanical properties, such as modulus, due to the inclusion of the above noted additives in tire rubber compositions. Thus, Table 1 does not provide a conclusive showing of "unexpected results".

Lastly, with respect to the elastic modulus and dynamic modulus, while the references fail to expressly disclose values for these parameters, one of ordinary skill in the art at the time of the invention would have expected the composition of Teratani in

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view of either Powell or Sattelmeyer to exhibit the claimed values as the compositions are extremely similar to that of the claimed invention. Additionally, there does not appear to be any unique processing that affects the above noted parameters- they appear to be a direct result of using the base composition of Teratani with a resin and a curing agent and as detailed above, such a composition would have been obvious in view of either one of Powell or Sattelmeyer.

As to claims 2 and 3, Table 1 (Page 8) includes a plurality of embodiments in which the reinforcing rubber layer has a thickness between 6 and 13 millimeters, it being recognized that the claimed range is consistent with similar runflat tire constructions.

Regarding claims 5 and 6, one of ordinary skill in the art at the time of the invention would have found it obvious to use the claimed amounts of resin and curing agent as they are consistent with the loadings commonly used in tire rubber compositions, as shown for example by Sattelmeyer (Column 3, Lines 45-55). It is additionally noted that the claimed ranges require a composition in which the amount of resin is at least equal to the amount of curing agent- one of ordinary skill in the art at the time of the invention would have expected such a relationship since the curing agent is provided to cure the resin.

### ***Response to Arguments***

3. Applicant's arguments filed August 29, 2006 have been fully considered but they are not persuasive.

Applicant argues that the composition of Teratani is similar to that detailed in Comparative Example 2 and one would have expected the composition to demonstrate a low elastic modulus and a low dynamic elastic modulus. However, the relevant composition is not that of Teratani but rather the composition of Teratani modified in view of either one of Powell or Sattelmeyer. It is emphasized that methylene acceptors (e.g. phenol resin) and curing agents (e.g. HMMM or HMT) represent well known and conventional additives that are used in a variety of tire compositions in order to, among other things, provide improved mechanical properties. In this instance, the modified composition is substantially the same as that of the claimed invention and thus, one of ordinary skill in the art at the time of the invention would have expected the composition to demonstrate an elastic modulus and dynamic elastic modulus in accordance to the claimed invention. As set forth above, one of ordinary skill in the art at the time of the invention would have been amply motivated to include the well known and conventional additives required by the claimed invention.

It is agreed that none of the cited references expressly teach values for the parameters of elastic modulus and dynamic modulus. It is emphasized that the modified composition is substantially the same as that of the claimed invention and thus, one of ordinary skill in the art at the time of the invention would have expected the composition to demonstrate an elastic modulus and dynamic elastic modulus in accordance to the claimed invention. Also, as to a low dynamic elastic modulus, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the

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differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant further argues that one of ordinary skill in the art at the time of the invention would recognize that in ordinary rubber compositions, when a dynamic elastic modulus is high, a corresponding elastic modulus in 100 % elongation will also be high. While this might be the case, the prior art references of record would have directed a skilled artisan to include a resin and a curing agent in the composition of Teratani. Applicant has admitted that a combination of a conjugated diene base polymer having a high vinyl bonding amount and a curable resin with a curing agent can achieve the claimed modulus parameters (Page 8 of response). The modified composition of Teratani, in view of either one of Powell or Sattelmeyer, comprises a conjugated diene base polymer having a high vinyl bonding amount and a curable resin with a curing agent- given the extreme similarities between the modified composition and that of the claimed invention, one of ordinary skill in the art at the time of the invention would have expected the modified composition to demonstrate the claimed modulus characteristics. This is significantly different from saying that one of ordinary skill in the art at the time of the invention would have expected the use of a resin and a curing agent to result in a high elastic modulus and a low dynamic elastic modulus.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Justin R Fischer  
Primary Examiner  
Art Unit 1733

JRF  
September 6, 2006